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ILLUSTRATIONS.

No. I.

ON MEANS OF PRESERVING LIFE IN CASES OF SHIPWRECK.

By the Secretary.

Nov. 8, 1843.

T. HOBLYN, ESQ., F.R.S., V.P., IN THE CHAIR.

Abstract.

The great loss of valuable lives every year on the British shores attracted the attention of the Society of Arts to this important subject at an early period of its existence, and premiums were accordingly offered by the Society for the discovery of the most effectual means of diminishing the frequency of such distressing calamities. It is agreed by all those who have given their attention to the subject, that the most frequent cases of shipwreck happen within a short distance of shore.

Lieutenant Bell, in 1791, received fifty guineas from the Society for his method of throwing a line from a stranded ship to the shore; experiments to test the merit of which were made by a Committee of the Society, by desire of the master-general of the Ordnance.

The trials were made with a mortar fixed in a boat, moored in the Thames, at about 250 yards from the shore. The mortar was charged with a cast-iron shell filled with lead, to which was attached, by a ring, a deep sea-line to be thrown on shore. The mortar was fixed at an angle of 45°, and the charge of powder was equal to fifteen ounces. On the first trial the ball fell at a distance of 150 yards from the river, and was buried about 18 inches in the ground. Lieutenant Bell and a friend, by means of the rope, pulled themselves on shore on a raft formed of a seaman's chest, attached to four casks.

The next mode brought under notice, of forming a communication between a stranded ship and the shore, was that by means of Captain Dansey's kite, which is composed of a sheet of holland, 9 feet square, extended by two spars, furnished with a tail five times the length of the kite, and formed of a double cord whipped at equal distances with packthread, so as to form a succession of loops or eyes, into which pieces of wood are thrust to give the required weight. It is also furnished with an apparatus, including a messenger, which is used for the purpose of causing the kite to fall in a convenient position on the land. Captain Dansey received the Gold Medal for this invention.

Captain Manby, who is so favourably known to the world for his great exertions in this humane cause, received the Society's Gold Medal in 1808, for his method of forming a communication between the shore and stranded vessels, which is similar in principle to that of Lieutenant Bell, but is rendered more efficient by improved implements and appliances, the chief of which are fully described in the communication.

His mode of giving signals from the shore to the ship, by means of gestures of the human body, is particularly deserving of attention, and should be introduced generally in the British navy, as well as in the merchant service. As an instance. A man on shore holding his right arm extended at right angles to his body, means,—" look out for the rope." The same gesture made by a person on board is an acknowledgment that the signal is understood ; and so on.

Another mode of sending a line from a vessel to the shore, or *vice versâ,* is by means of a rocket, to the stick of which is attached a mackarel line. The rocket is fired from a musket.

From experiments made by the Society of Arts, it was shewn that a rocket, 1¾ inches in diameter, will carry a cord quite across the Serpentine River in Hyde Park.

This invention is due to Mr. Trengrouse of Helston, in Cornwall, for which he received the Society's large Silver Medal and thirty guineas, in 1820.

The cliff-crane of Mr. Harrison for raising shipwrecked persons from the beach to the top of inaccessible cliffs, as well as that of J. Johnson, Esq., of Brighton, are also described.

The beacon on the long sand in the port of Lynn, put up by Mr. Holditch in 1820, and that of Captain Bullock, similar to the above, erected more recently on the Goodwin Sands, are also fully described.

The life-boats or life-rafts of Mr. Shipley (founder of the Society) in 1776 ; of Mr. Boyce in 1814 ; of T. Grant, Esq., in 1817 ; of Lieutenant Rodger and of Lieutenant T. Cook, in 1818 and 1819 ; of Captain Gordon, R.N., in 1822 ; of Lieutenant Ackerly in 1828 ; of Mr. Canning in 1831 ; of Mr. Soper and Commander Rorie, in 1837 ; of Commander Beadon in 1843 ; and, lastly, of a very simple buoy by J. Johnston, Esq., of Brighton, are all included in the paper. The several inventors, except Mr. Johnston, have been rewarded by the Society.

An account of the air-jacket of Mr. Daniell, who received the Society's Gold Medal in 1807, is described, and also the more improved articles of dress on the same principle, by Mr. Pigot, which are coming into very extensive use on account of their simplicity and the small cost at which they are supplied.

Lieutenant Irvine's floatable trunk is, in the last place, described, which is calculated, not only to preserve apparel, letters, papers, &c, perfectly dry, in case of being thrown overboard, but is also capable of being used as a life-buoy. The largest exhibited before the Society, which is lined with metal, is capable of floating thirty persons. The frame is made of wood, filled in flush with cork, within which is an air casing, extending all over the bottom, top, and sides, and, for ordinary purposes, the interior is lined with Mackintosh cloth. Handles are fixed on the outside for persons immersed in the water to lay hold of.

No. II.

ON ELKINGTON'S PROCESS OF COATING IRON WITH ZINC, COPPER, ETC.

By F. Pellatt.

Nov. 22, 1843.

T. HOBLYN, ESQ., F.R.S., V.P., IN THE CHAIR.

Our present object is to detail the method of protecting iron by coating it with other metals, by means of depositing them from their solutions by an electric current. Iron, from its strength and cheapness, is perhaps the most valuable of all metals, and its application is now universal; it seems as essential to the convenience of man as air or water to his physical wants. The abundant supply of the mineral ore, in connexion with coal, the necessary agent for making it useful, has done much to raise our country to the high standard of political importance it now enjoys among nations.